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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/049,757	07/16/2002	Bodo von During	ELIOP001	7573

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EXAMINER

MARTIN, ANGELA J

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 12/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/049,757

Applicant(s)

DURING, BODO VON

Examiner

Angela J. Martin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 14-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 14-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 16 July 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 14, 16, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Bakos et al., U.S. Pat. No. 4,761,352.

Rejection of claims 1, 14, 16, and 21 drawn to a battery.

Bakos et al., teach a battery comprising an electrode of lithium metal or lithium alloy, an electrode containing an active material intercalating lithium ions (col. 2, lines 14-19), a separator between both electrodes (col. 2, lines 22-32), and a housing enclosing the electrodes and separator with connector tabs for electrodes (col. 3, lines 37-39), characterized in that at least one of the electrodes is a multi-layer body built by multiple folds and by an equal layer-thickness of active material between the folded layers (Fig. 4); the folding is a Leporello (zig-zag)-folding (Fig. 4). It also teaches the electrode comprises a carrier material permeable for ions coated with active material of equal layer thickness on both sides (Fig. 3) and the multi-fold body comprises at least two folds (Fig. 5).

Thus, the claims are anticipated.

3. Claims 1, 15, 16, 21-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujimoto et al., U.S. Pat. No. 5,683,834.

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Rejection of claims 1,15,16, 21-24 drawn to a battery.

Fujimoto et al., teach a battery comprising an electrode of lithium metal or lithium alloy, an electrode containing an active material intercalating lithium ions, a separator between both electrodes (col. 2, lines 20-31; col. 16, lines 1-5), and a housing enclosing the electrodes and separator with connector tabs for electrodes (Fig. 1), characterized in that at least one of the electrodes is a multi-layer body built by multiple folds and by an equal layer-thickness of active material between the folded layers (Table 1, Run No. 1); the folding is a coil folding (Fig. 1). Additionally, it teaches the multi-fold body comprises at least two folds (Fig. 1), or at least four folds (Fig. 1). It also teaches the layer thickness of the active material is between 25-150 micrometers, 40-110 micrometers (Table 1).

Thus, the claims are anticipated.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1,17-20, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimoto et al., U.S. Pat. No. 5,683,834.

Rejection of claims 1, 17-20, and 25 drawn to a battery.

Fujimoto et al., teach a battery comprising an electrode of lithium metal or lithium alloy, an electrode containing an active material intercalating lithium ions, a separator between both electrodes (col. 2, lines 20-31; col. 16, lines 1-5), and a housing enclosing the electrodes and separator with connector tabs for electrodes (Fig. 1), characterized in that at least one of the electrodes is a multi-layer body built by multiple folds and by an equal layer-thickness of active material between the folded layers (Table 1, Run No. 1). It also teaches the electrode comprises a carrier material (col. 15, lines 35-49) coated with active material of equal layer thickness on both sides (Table 1, Run No. 1); active material having a different layer thickness on each side (col. 2, lines 20-31; Table 1, Run No. 2-8); coated on one of its sides with a thin layer of material (Table 1, Run No. 2-8); coated on its other side with a thick layer of active material (Table 1, Run No. 2-8). Additionally, it teaches the battery wherein the thickness of the thin layer coating of active material on one side of the carrier material is half the thickness of the thick layer coating of active material on the other side of the carrier material (Table 1, Run 7); and the overall thickness of the folded, multi-layer body is less than 500 micrometers (col. 17, lines 5-30).

Fujimoto et al., does not give a specific example of a carrier material permeable for ions (porous collector) coated with active material. Additionally, it does not give the overall thickness of the folded, multi-layer body.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a porous collector because Fujimoto et al., suggests this option in col. 15, lines 46-49. Also, by adding the thickness of the collector along

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with the thickness of the active materials, there are examples of the overall thickness of the folded, multi-layer body less than 500 micrometers (col. 17, lines 5-30; Table 1).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela J. Martin whose telephone number is 703-305-0586. The examiner can normally be reached on Monday-Friday from 8:00 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 703-308-0756. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

AJM

December 15, 2003

A handwritten signature in black ink, appearing to read "Angela J. Martin". The signature is written in a cursive, flowing style with a large initial 'A'.